

OPERATING INSTRUCTIONS

Models 655 and 655 Zoom



**BALOMATIC
SLIDE PROJECTORS**

*Your Viewing
Pleasure
Starts Here*

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Happy Viewing!

You have just purchased a fine automatic slide projector. To safeguard your investment and get the most enjoyable trouble-free use of this projector PLEASE take 5 minutes to follow the simple pictorial procedure given in this Manual.

Don't try to memorize the whole manual. Carefully read the instructions and look at each picture as you carry out the procedure.

PARTS IDENTIFICATION

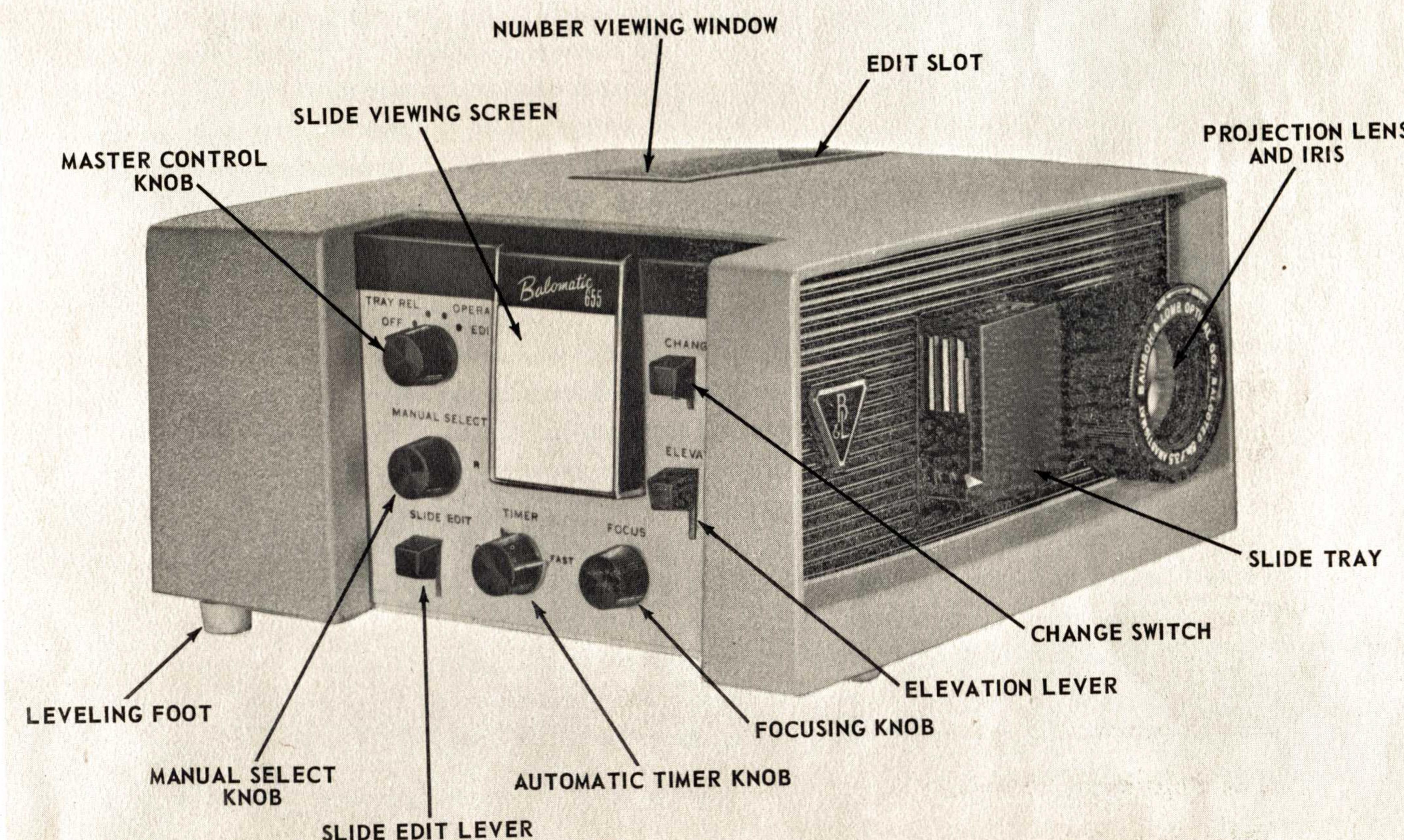


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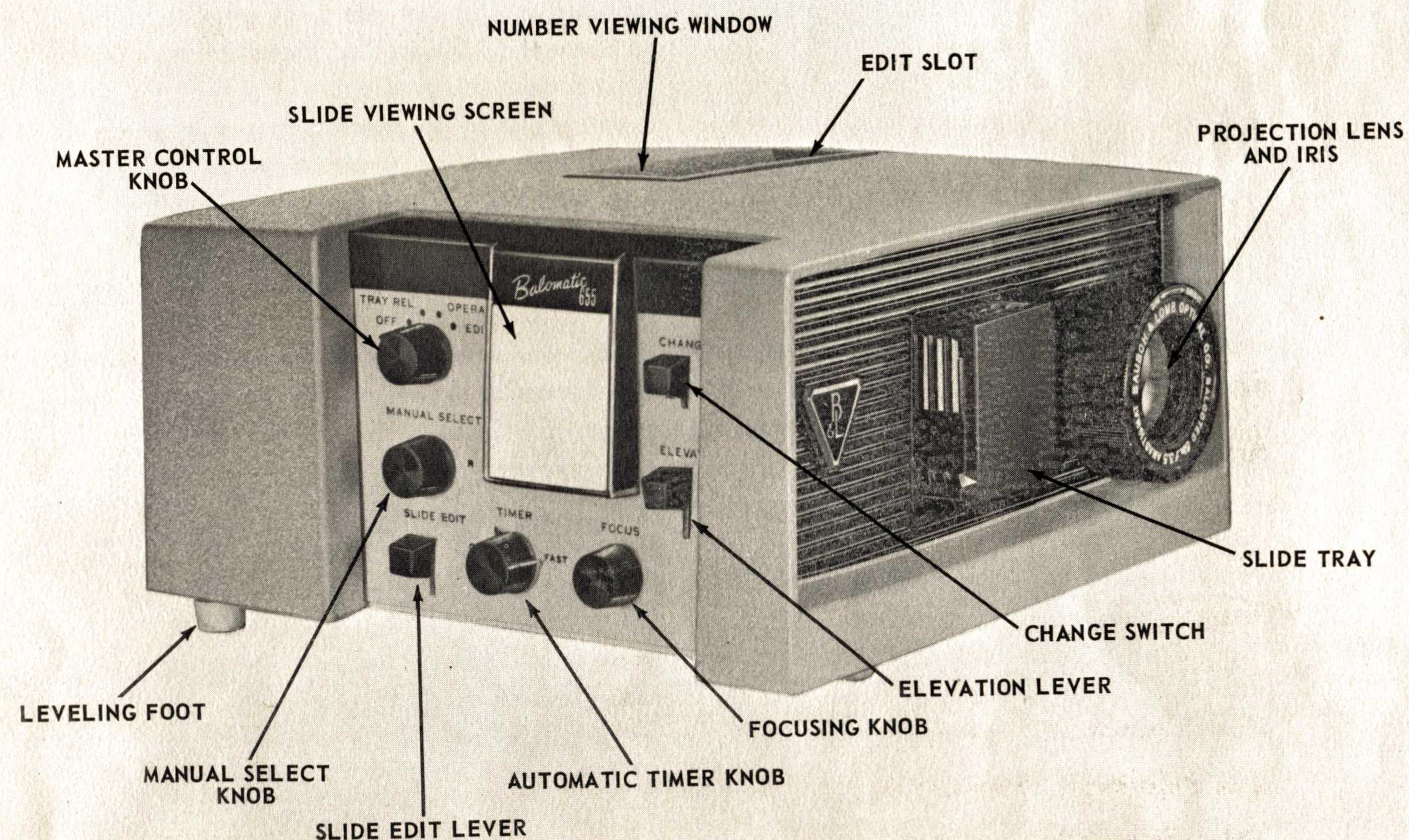
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PARTS IDENTIFICATION



SOME FACTS ABOUT YOUR BALOMATIC

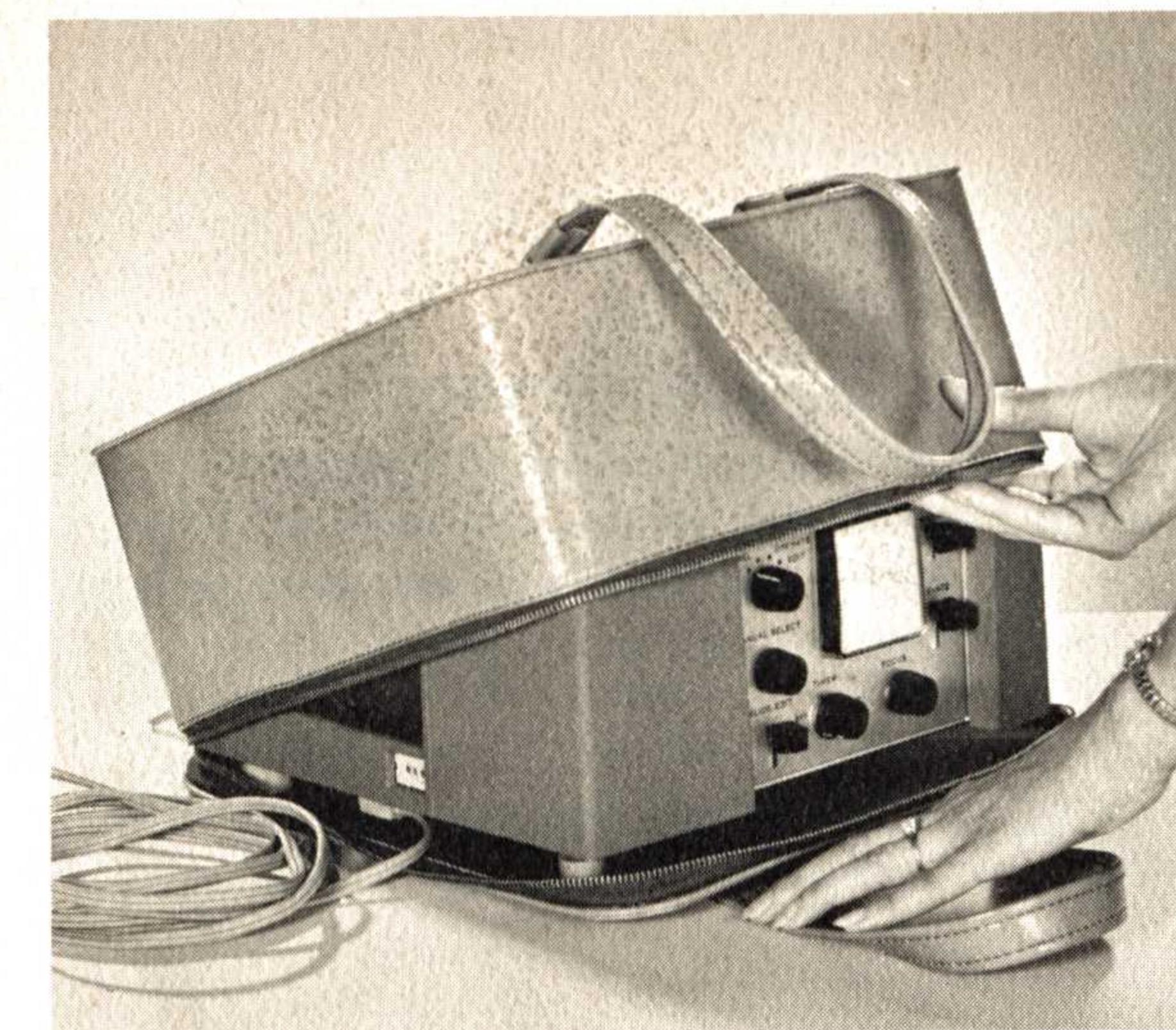
You are now the owner of a truly fine projector. Your Balomatic was made by a company with over 100 years of experience in precision optical manufacturing. The knowledge, the skills, and the high standards which have built Bausch & Lomb's unique reputation for providing the best in optical equipment have been applied to this individual projector. Over the many years it will serve you, you will derive a keen pleasure from the assurance that in every point of quality, in each detail of operation and performance, your Balomatic is a superior instrument carefully designed and expertly made.

The most important feature of a slide projector is its ability to transfer the picture your camera took to the screen *without loss of picture quality*. For many years Bausch & Lomb has supplied over 95% of the projection lenses used for professional motion pictures, including Cinemascope lenses. This experience has developed the precise balance of optical characteristics necessary for the most satisfactory projection system. The knowledge—knowledge no other manufacturer has had the opportunity to gain—has been used in the design of the optical system of your Balomatic to provide you *High Picture Fidelity*. The picture you took is recreated on the screen sharply, clearly and with full realism.

If this is the first projector you have used or owned, there is another feature of your Balomatic which you may not now fully appreciate. Most projectors in use today "pop" slides. That is, when the picture first appears on the screen it may be in focus, but after a few seconds it will "pop" out of focus due to the heat from the projection lamp. It then has to be refocused. Of course, this means that the next picture will be out of focus and you either have to adjust focus or endure the fuzziness until it "pops" into focus. Bausch & Lomb was one of the first projector manufacturers to pioneer the solution of this problem, by gently pre-heating the slides prior to projection. This reduces the temperature shock a slide is subjected to when first projected. The result being that the average slide is "pre-popped" and does not pop out of focus during projection.

Beyond these advantages, your Balomatic is a unique combination of many wanted features—easy editing and single slide projection, split-second slide change, brilliant screen image, one-button forward and reverse, inexpensive, non-spill trays, no annoying image movement when changing slides—to name a few. It is most gratifying to us that all of these are about to be put to use for your satisfaction, convenience and happy viewing.

BAUSCH & LOMB INCORPORATED



STEP 1

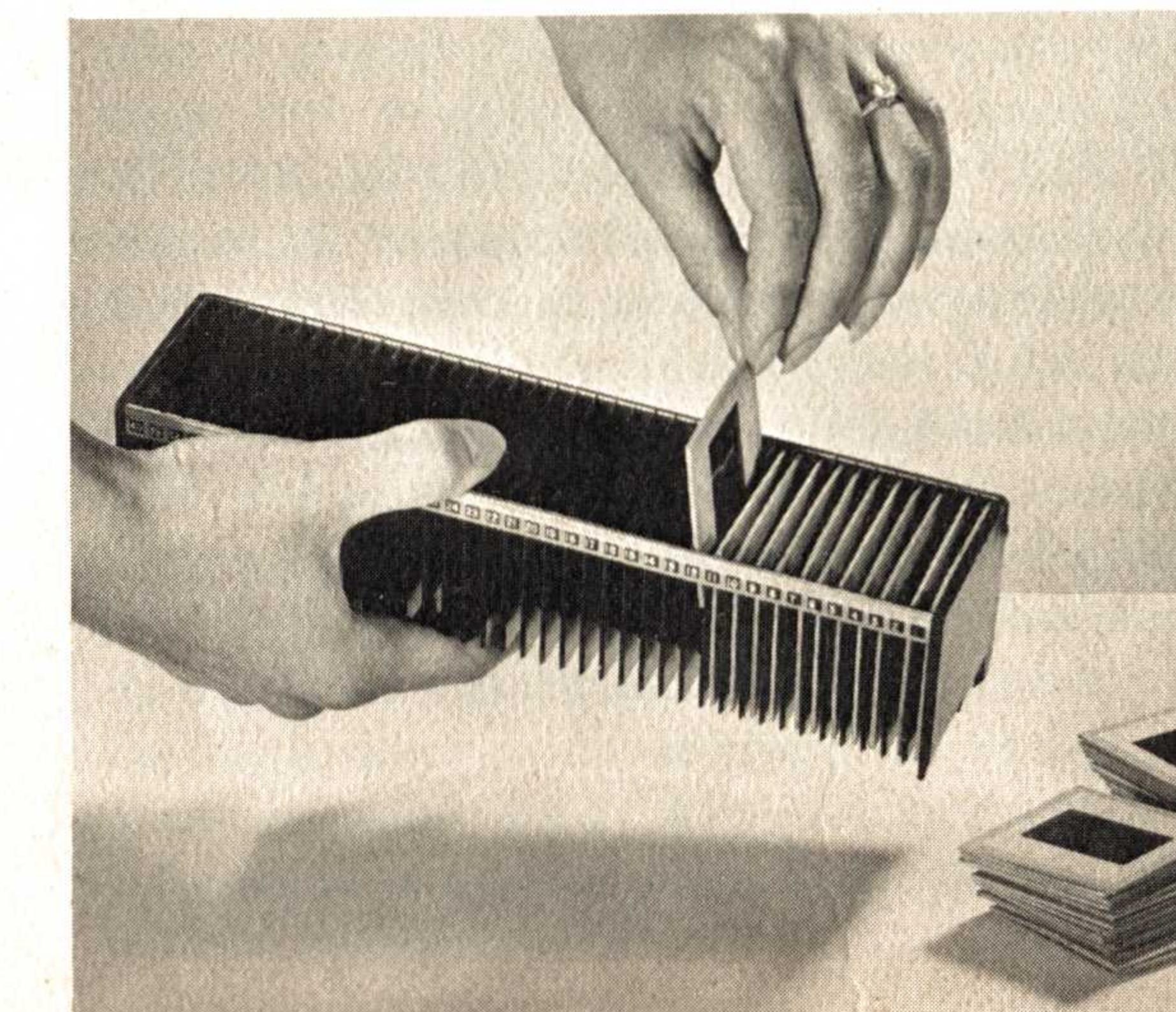
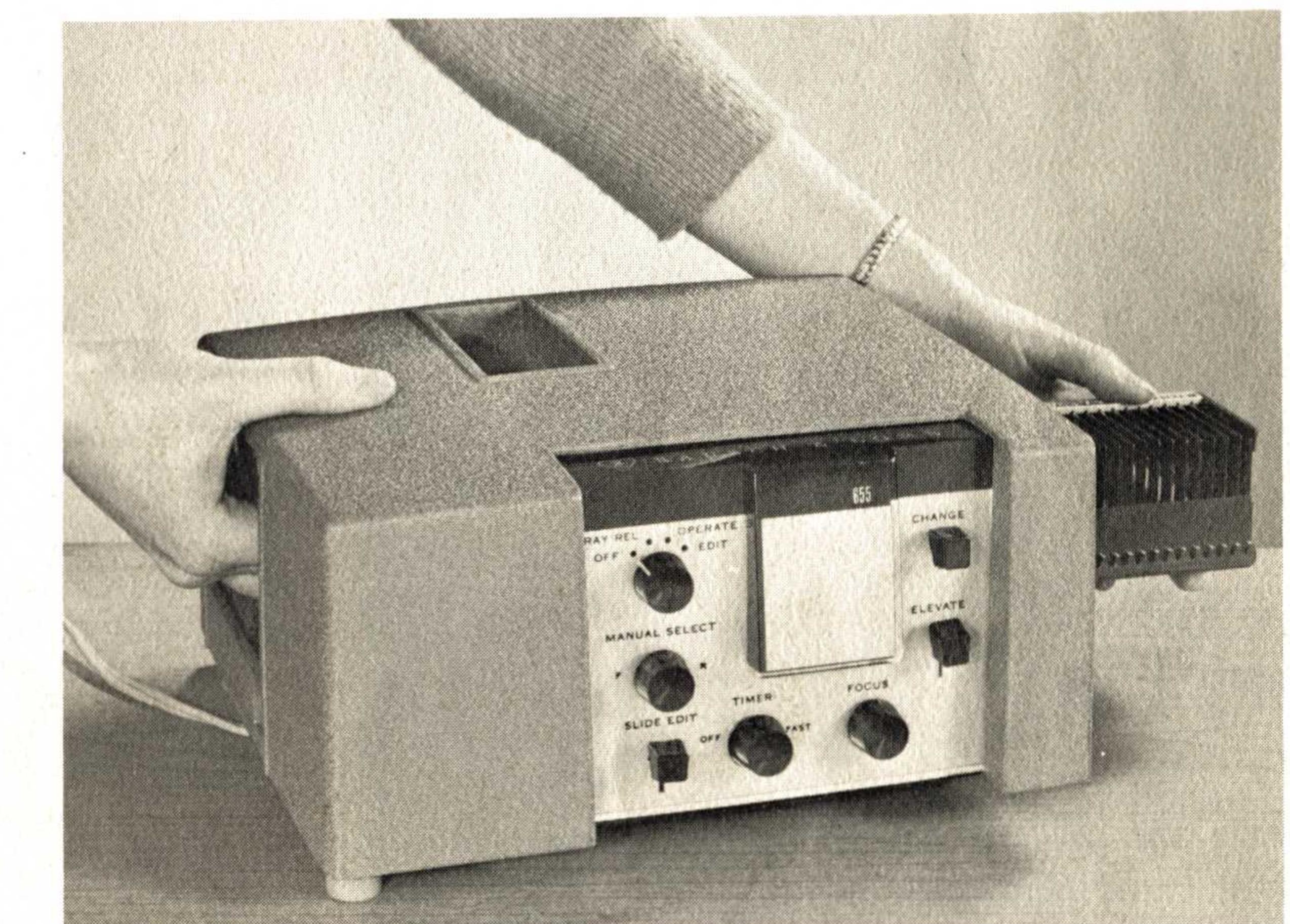
REMOVING THE PROJECTOR FROM ITS CASE. Be sure first that the zippers are fully unzipped. Unwind the power cord on the bottom of the projector, slide the projector out of its case and set it down on its feet. Remove and discard the cardboard shipping insert. For future removal of the projector from its case, after opening the zippers and unwinding the power cord, set the case down with the zipper on the bottom and lift the cover off as shown. Plug the power cord into a 110 volt A.C. outlet.

CAUTION: Do not place the projector on a tablecloth or over loose papers which may restrict the airflow through the grill on the underside of the projector.

STEP 2

TRAY REMOVAL. The MASTER CONTROL KNOB must be at TRAY RELEASE or OFF POSITION. At these settings the tray may be removed from the front or back by turning the MANUAL SELECT KNOB or by *manually pushing it out*.

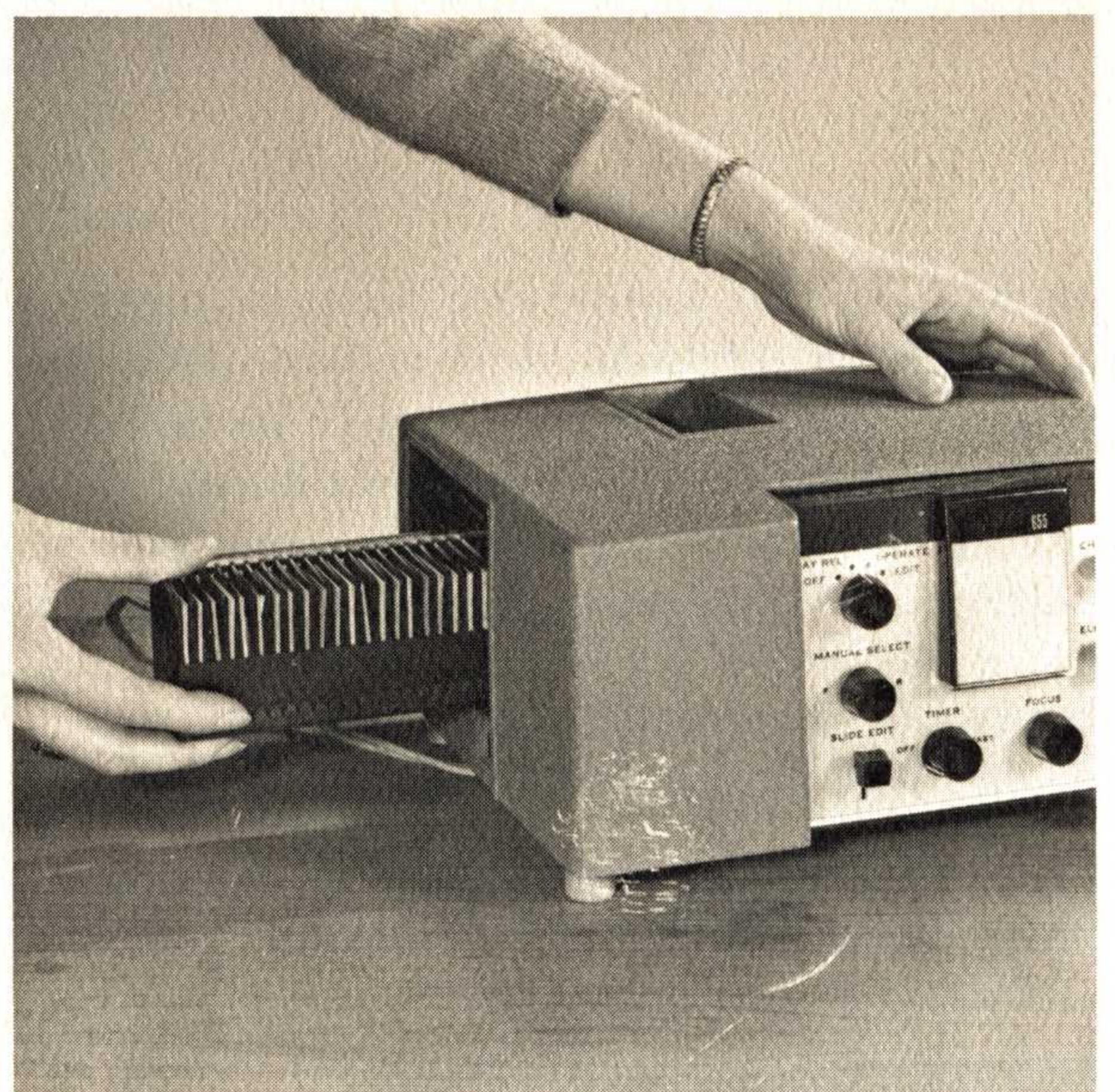
NOTE: Sometimes excessive shock during shipment will cause the slide tray to be temporarily locked in the tunnel. To free it, simply plug in the projector, turn the MASTER CONTROL KNOB to OPERATE and then back to TRAY RELEASE.



STEP 3

LOADING THE SLIDE TRAY. Make certain the bottom of each picture is toward the tray numbers and the EMULSION (usually the colored printed border side of the cardboard frame) faces the front of the tray. (If you accidentally put a slide in backward, it will not come to the same focus as the rest of the slides.)

NOTE: If you use metal framed mounts, be sure the smooth flush face of the mount is toward the front of the projector.



STEP 4

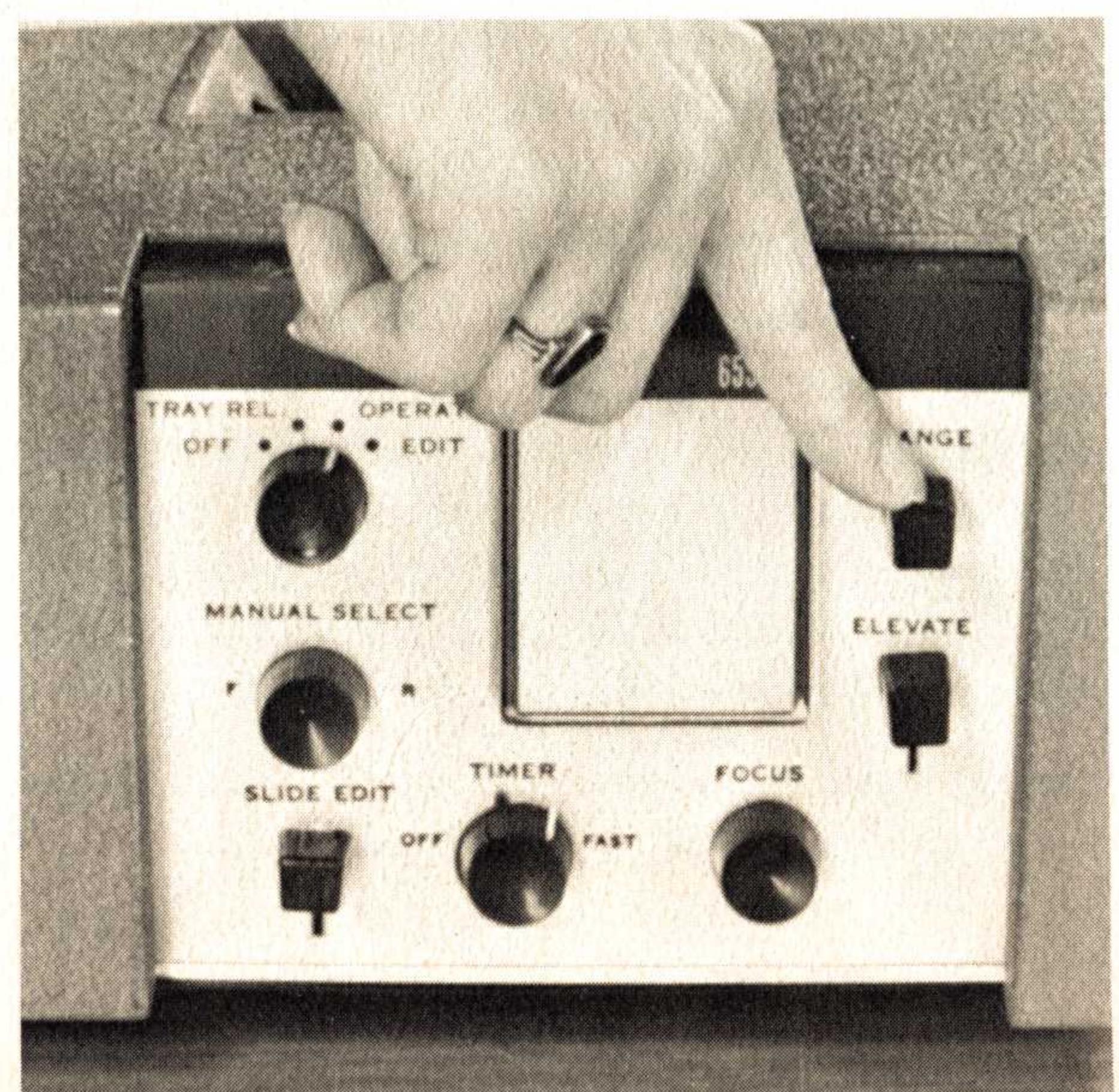
LOADING THE TRAY INTO PROJECTOR. Hold the tray with the numbers on top, and with the number 1 going into the tunnel first. Push the tray in *firmly* from the rear until it comes to a *definite click stop*. You should now be able to see the number 1 by looking into the NUMBER VIEWING WINDOW on top of the projector.

NOTE: When inserting the tray from the rear the MASTER CONTROL KNOB may be in any position except EDIT.



STEP 5

TURN MASTER CONTROL TO OPERATE. (2 clicks from the OFF position.) You are now ready to project the first slide. The Balomatic 655 projector has built-in slide pre-conditioning to prevent pictures from "popping" out of focus during projection. Slides are gently warmed, and the proper temperature maintained during projection. With no abrupt temperature shock, slides cannot "pop" or buckle out of focus. For best results allow a warm-up period of about 2 minutes before beginning slide show.



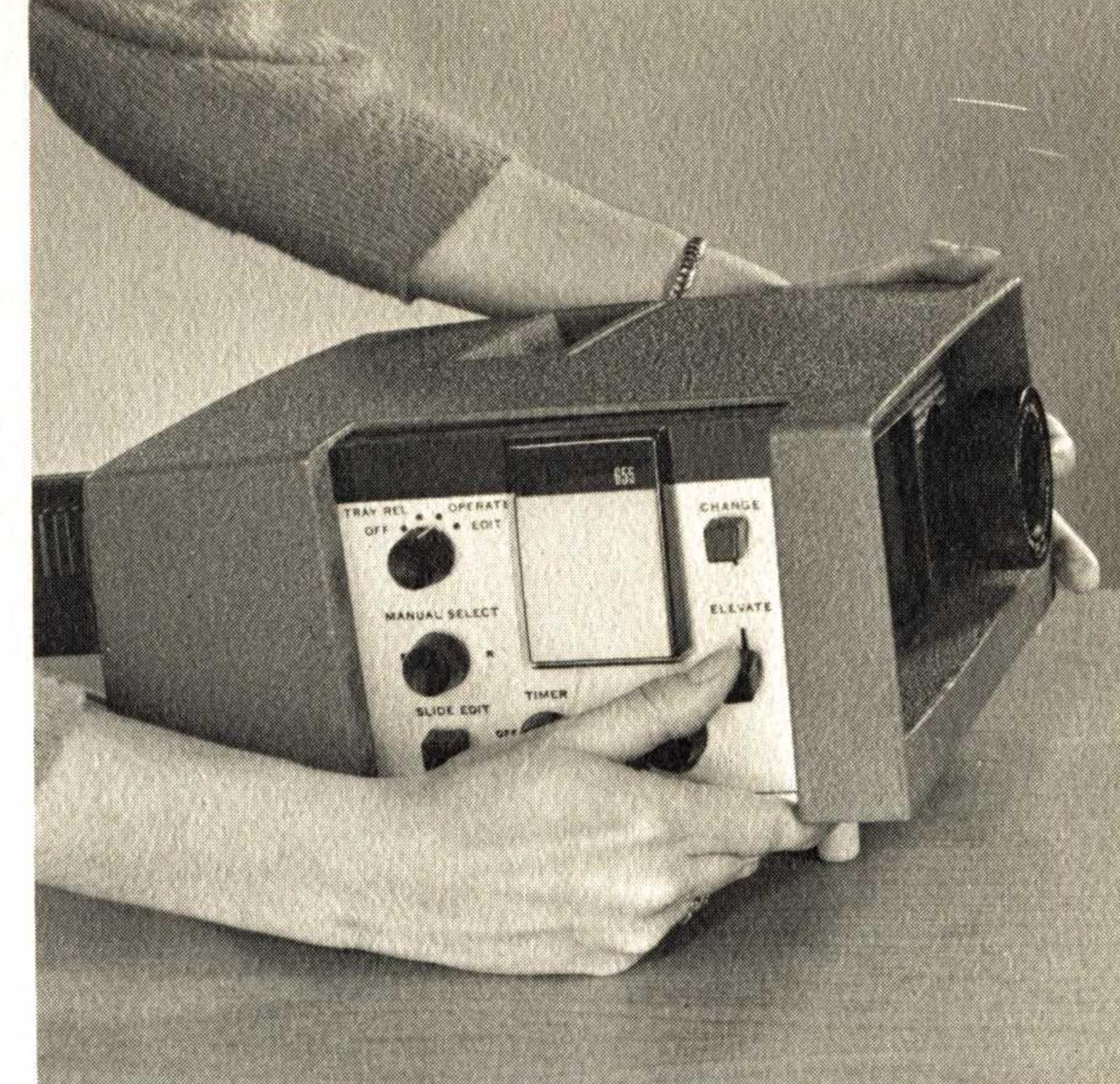
STEP 6

PRESS AND QUICKLY RELEASE THE CHANGE SWITCH. An exclusive dot-dash push button operation permits forward or reverse motion of the tray with one control. Tapping the CHANGE SWITCH with a dot-like stroke feeds the tray forward one position. A longer hold, long enough to say the word "reverse" to yourself feeds the tray backward one position. If the CHANGE SWITCH is held down longer yet, the projector will continuously reverse until the switch is released. If on number one slide you hold the CHANGE SWITCH too long, the tray may go backward instead of forward. If this happens, simply pull the tray backward about one inch and wait for the screen to darken. Push the tray forward again and try a faster tap on the CHANGE SWITCH.

STEP 7

ELEVATION ADJUSTMENT. Center the picture on the screen by tipping up the projector and holding the ELEVATION LEVER until you have the right height. Release the lever to lock the projector in this position.

LEVELING: If the picture is cocked, it may be straightened up by screwing the LEVELING FOOT in or out.



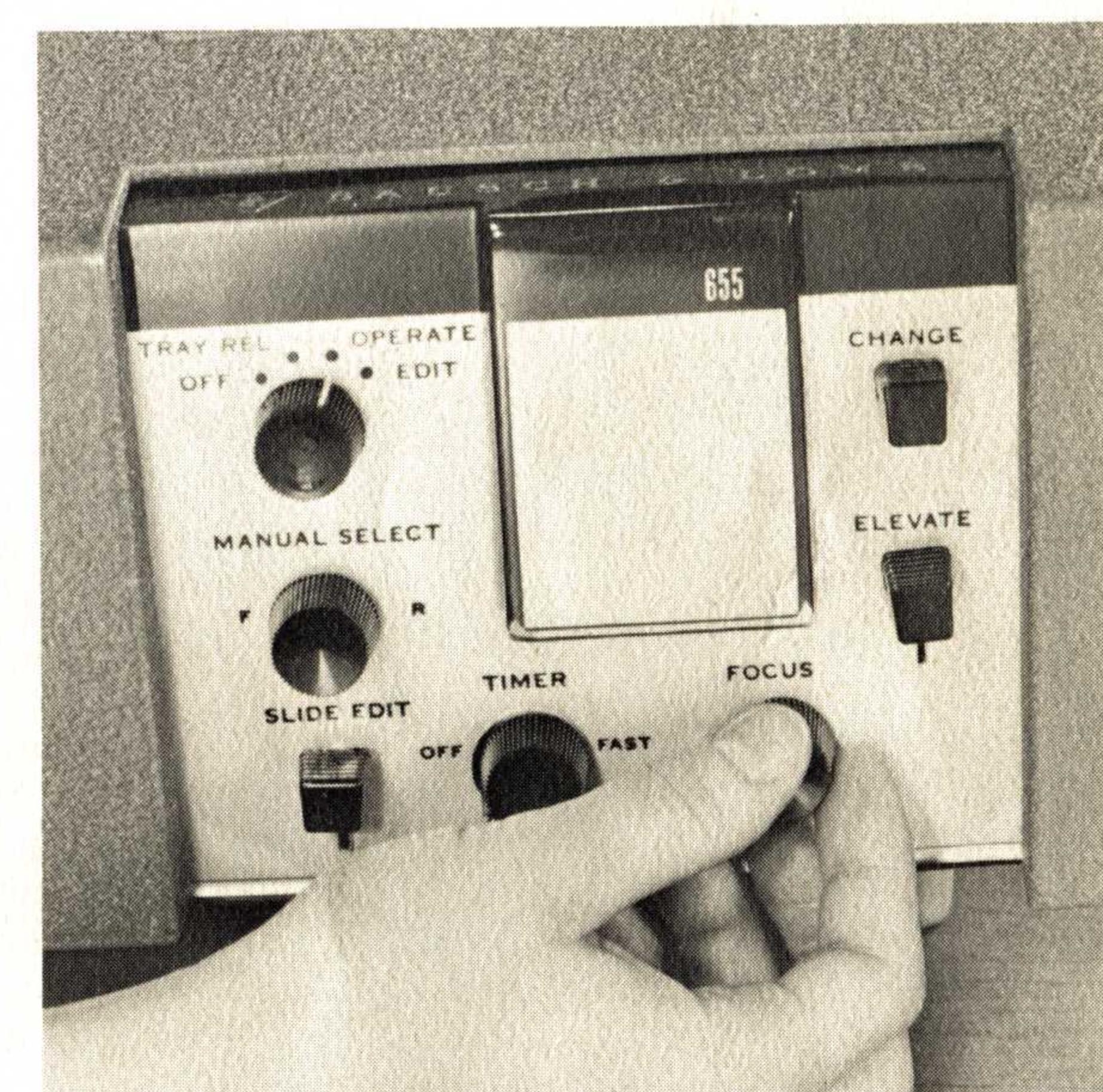
STEP 8

FOCUSING. Focus the picture with the FOCUSING KNOB.

ILLUMINATION CONTROL. If your projector is equipped with a 5" f/3.5 lens it has a manually operated LENS IRIS. The iris permits you to darken or brighten a picture at will. Rotate the iris to open or close, being careful not to push the lens out of focus.

This feature is useful for reducing the washed out appearance of an over-exposed slide.

NOTE: The Zoom Lens, and the 4" and 7" lenses do not have an iris.

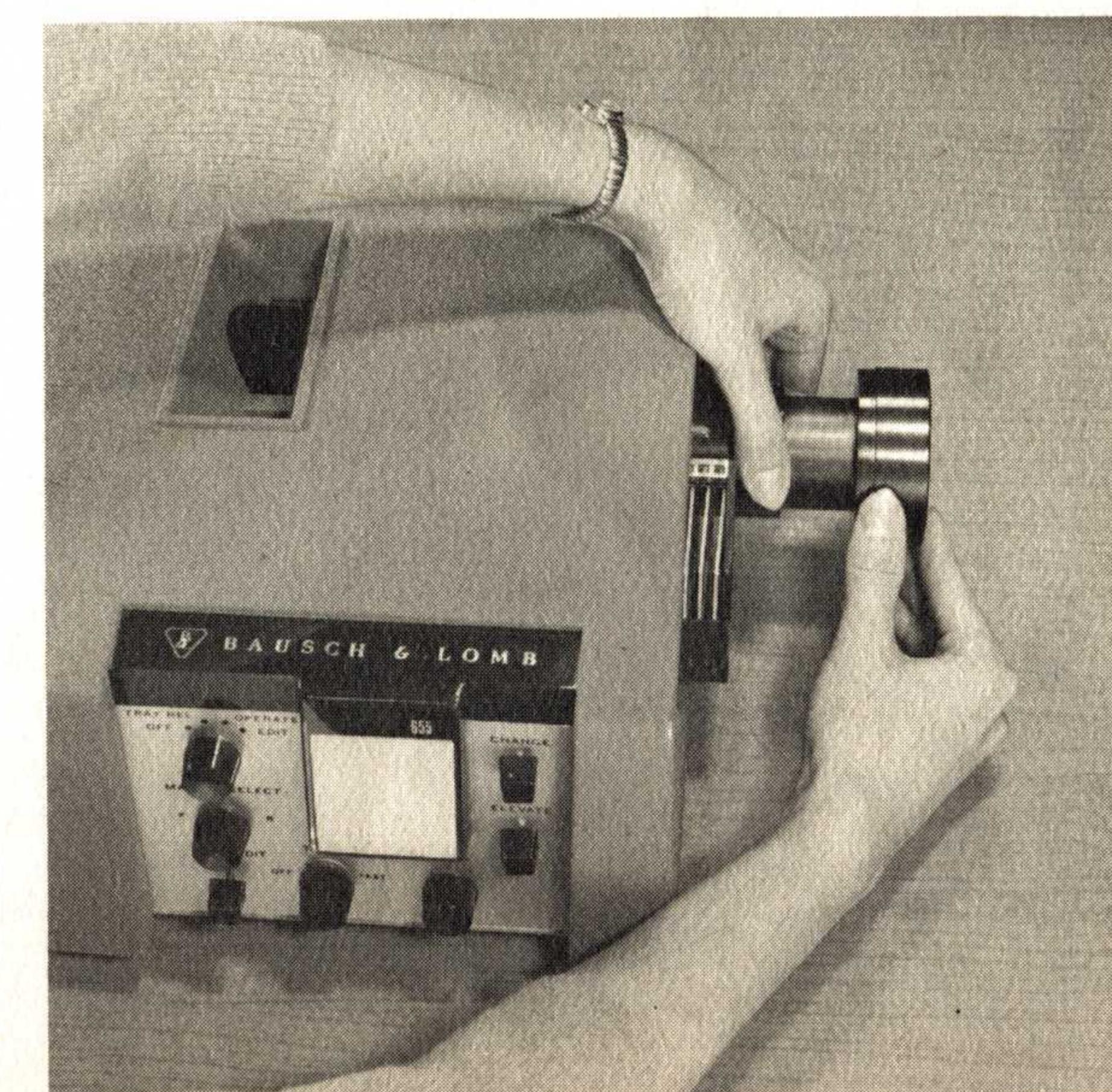


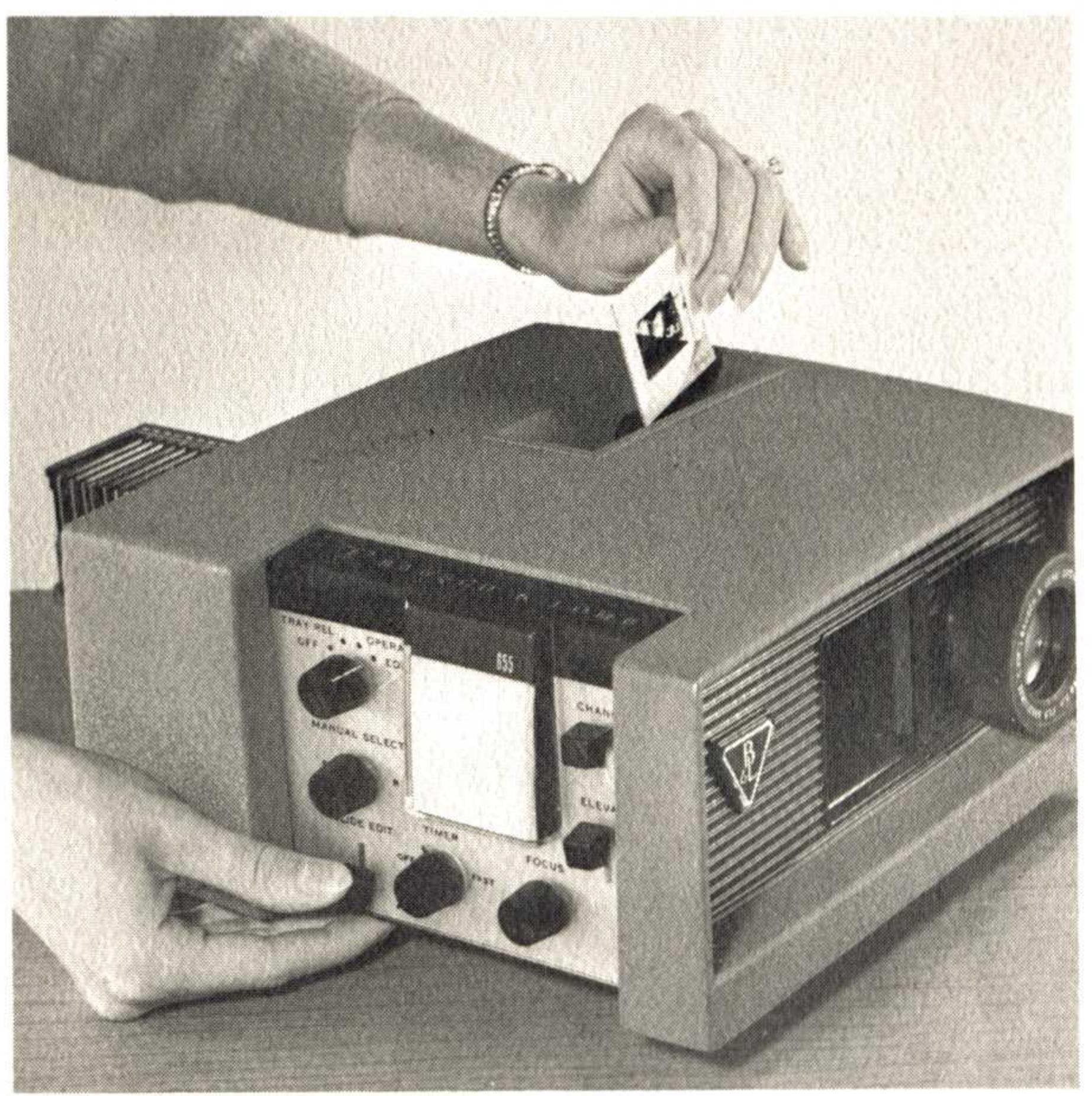
ZOOM LENS OPERATION.

The Balomatic Zoom Projector consists of the standard Balomatic 655 Projector with the Balomatic Zoom Lens, Cat. No. 63-25-46, in place of the standard 5" lens. The addition of this lens, with its focal length variable from 3.75 inches to 6.25 inches, enables you to place your projector in any convenient location in your room and vary the picture size as desired. In this manner, it is also possible to examine some of the fine details of your slides.

To vary the focal length of your lens, steady the barrel of the lens with one hand and grasp the lens cap with the other. Moving the lens cap toward the projector will enlarge the picture and moving it away from the projector will decrease the size, while maintaining focus throughout.

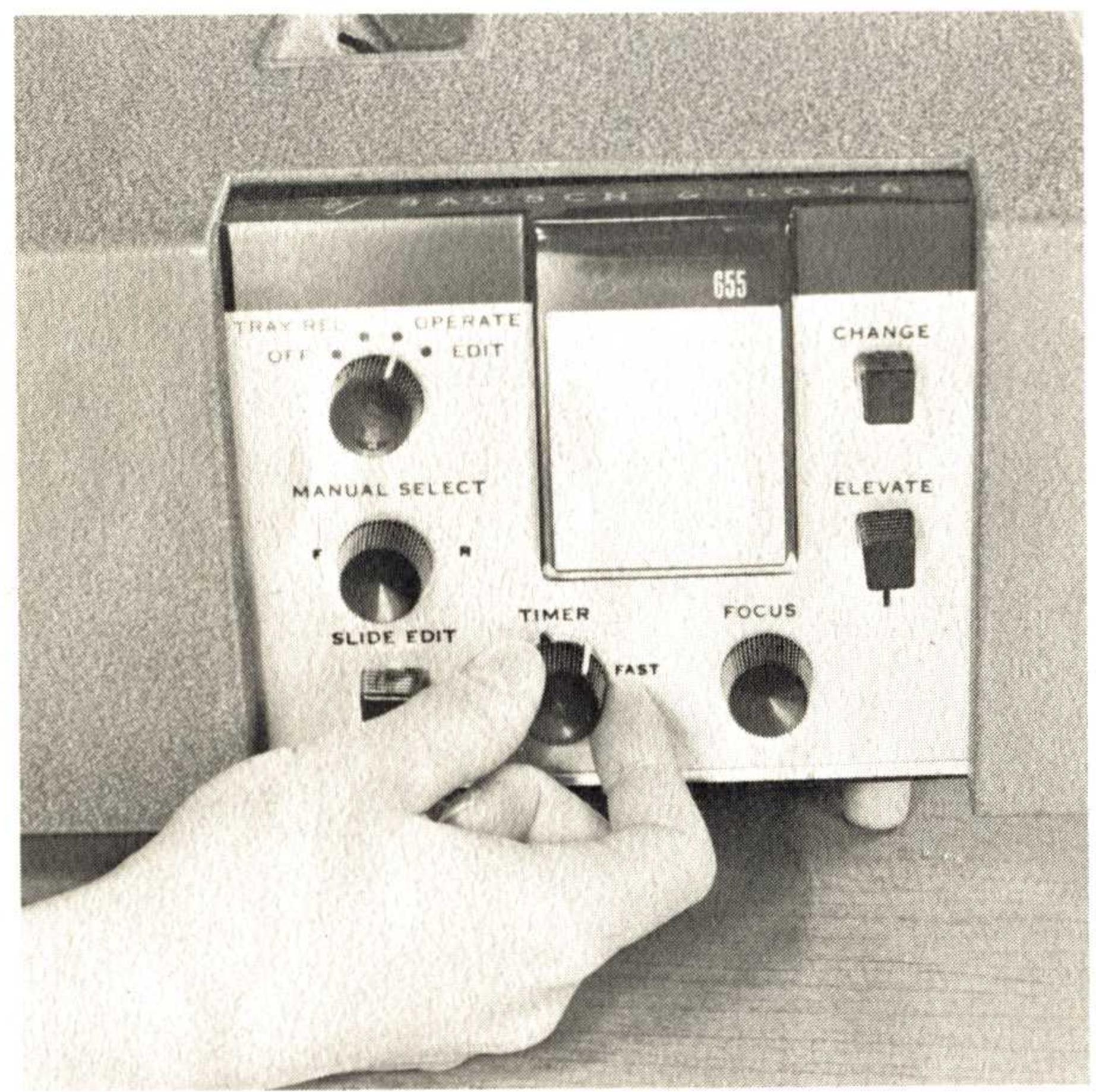
Before storing your projector in its case, be sure the lens is in its fully retracted position.





EDIT FEATURE. Permits removal and correction of improperly oriented slides and single slide operation. TO REMOVE AND CORRECT A SLIDE which is projected upside down or backward, turn the MASTER CONTROL to EDIT, press and hold down the SLIDE EDIT LEVER with one hand, and withdraw the slide from the EDIT SLOT with the other. Hold the slide in front of the SLIDE VIEWING SCREEN. Correctly orient the slide and put it back into the EDIT SLOT, being careful to see that it is pushed all the way down. Turn the MASTER CONTROL KNOB back to OPERATE and continue your projection.

For single slide operation with or without a slide tray, turn the MASTER CONTROL KNOB to EDIT. Insert the slide into the EDIT SLOT, being careful to push it all the way down. To remove the slide press the EDIT LEVER with one hand, and withdraw the slide with the other.



FULLY AUTOMATIC TIMER OPERATION. Permits automatic projection of your slides with a continuously variable timer. With the MASTER CONTROL KNOB at OPERATE, set the AUTOMATIC TIMER KNOB at any desired position between FAST and SLOW. Load tray into projector up to the definite click stop as before, and press the CHANGE SWITCH. It is necessary to press the CHANGE SWITCH to start the timer when in No. 1 position only. The pointer at the base of the knob is not connected to the knob in any way, but is used for resetting to a favorite time interval. Having found the time interval you like, simply move the pointer with your finger to line up with the white index line on timer knob.

During automatic projection, the picture can be changed at any time, by tapping the CHANGE SWITCH, without affecting the preset time interval of the succeeding slides.

If it is desired to interrupt the automatic timer to hold a picture on the screen, it is not necessary to turn the timer off. Simply turn the MASTER CONTROL KNOB to EDIT.

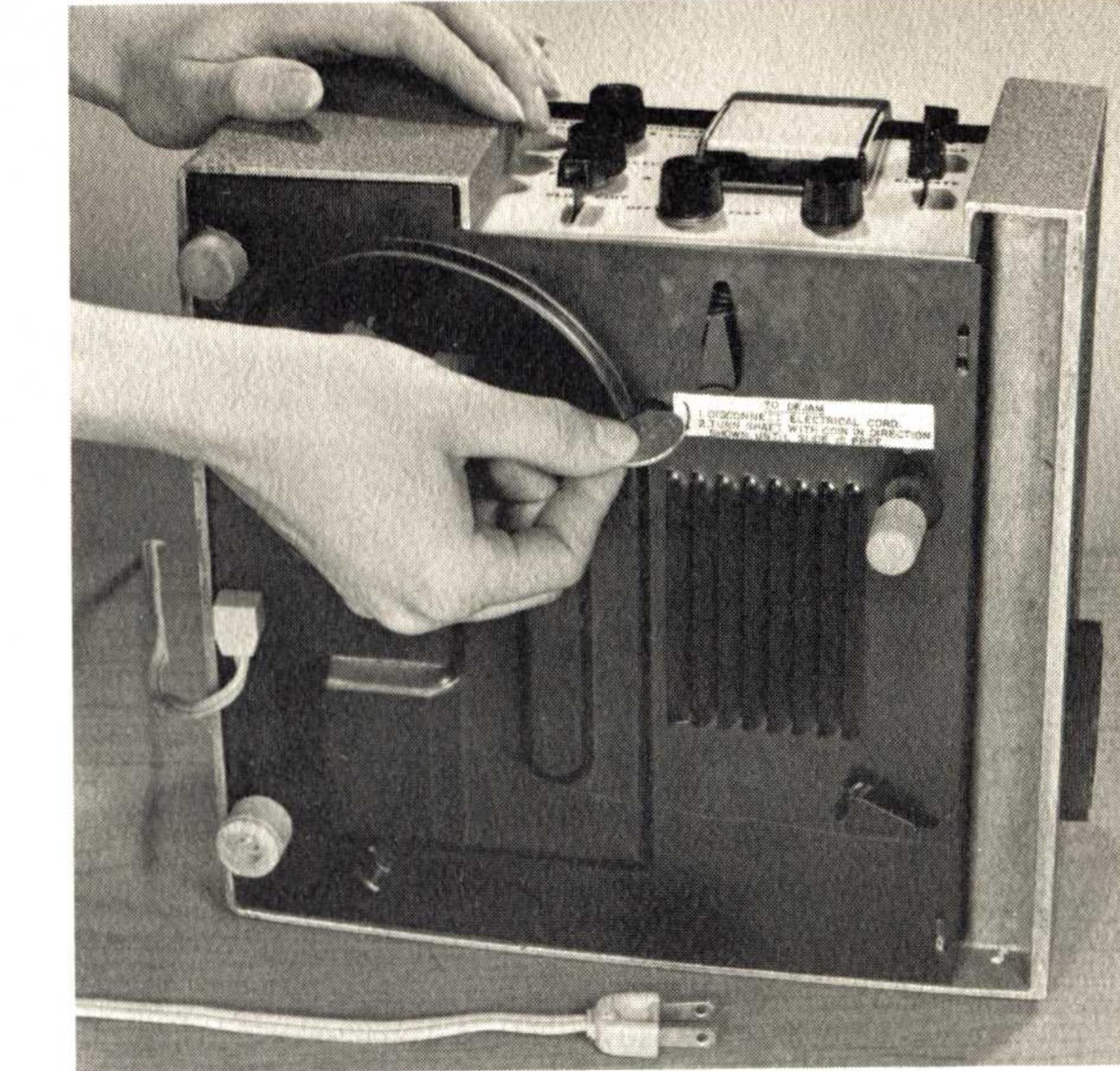
If you wish to go back to change switch operation, turn the AUTOMATIC TIMER KNOB counterclockwise to OFF until it passes the detent.

NOTE: The MASTER CONTROL KNOB must be set at OPERATE to use the timer.



REMOTE CONTROL OPERATION. An accessory remote control cord (Cat. No. 63-25-01) is available which plugs into the rear of the projector beneath the tray tunnel. The control button on the end of this cord gives you the same forward and reverse (dot-dash) control as the CHANGE SWITCH. Again practice watching the tray to be sure you have mastered the timing.

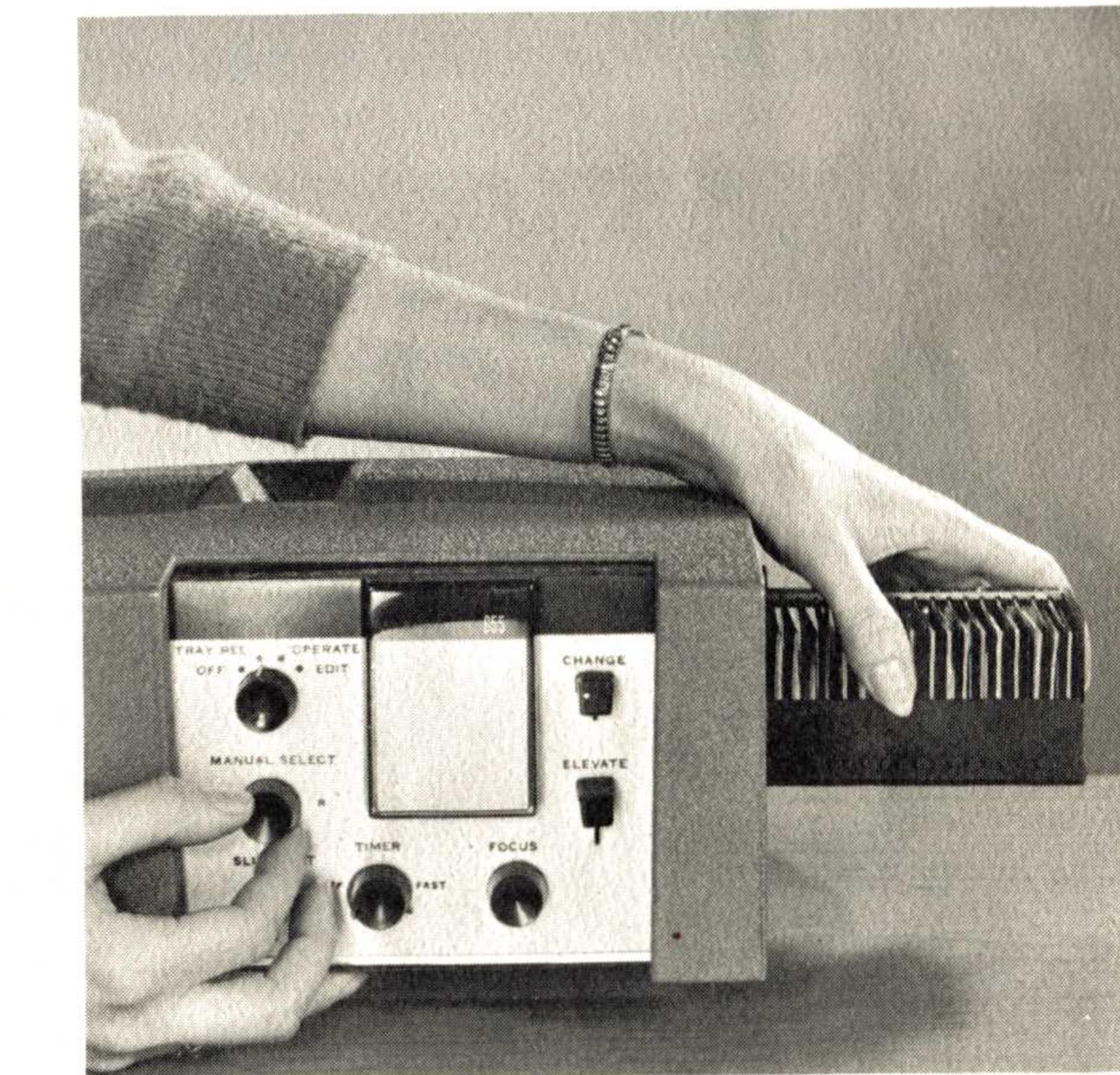
REMOVING A JAMMED OR DEFECTIVE SLIDE. Sometimes in trying to edit a slide, it may become jammed because of not pushing it all the way down into the slot. If this happens, or if a defective slide causes a jam, disconnect the projector from the wall outlet, and tip it on its side. Twist firmly on the DEJAMMING SHAFT in the direction indicated by the arrow, using a large coin or screwdriver, until the pressure on the slide is released. (If necessary the DEJAMMING SHAFT can be turned continuously in the direction of the arrow until the jammed or defective slide is freed.) Tip the projector back upright, remove the defective slide or poke the slide fully down into the gate. Check to see that no slides have fallen part way out of the tray where they may catch on the front or rear of the projector. Plug the cord back into the 110 volt outlet, and resume projection. For trouble-free projection, avoid badly warped, sharp cornered, or dog-eared mounts.



TRAY REMOVAL

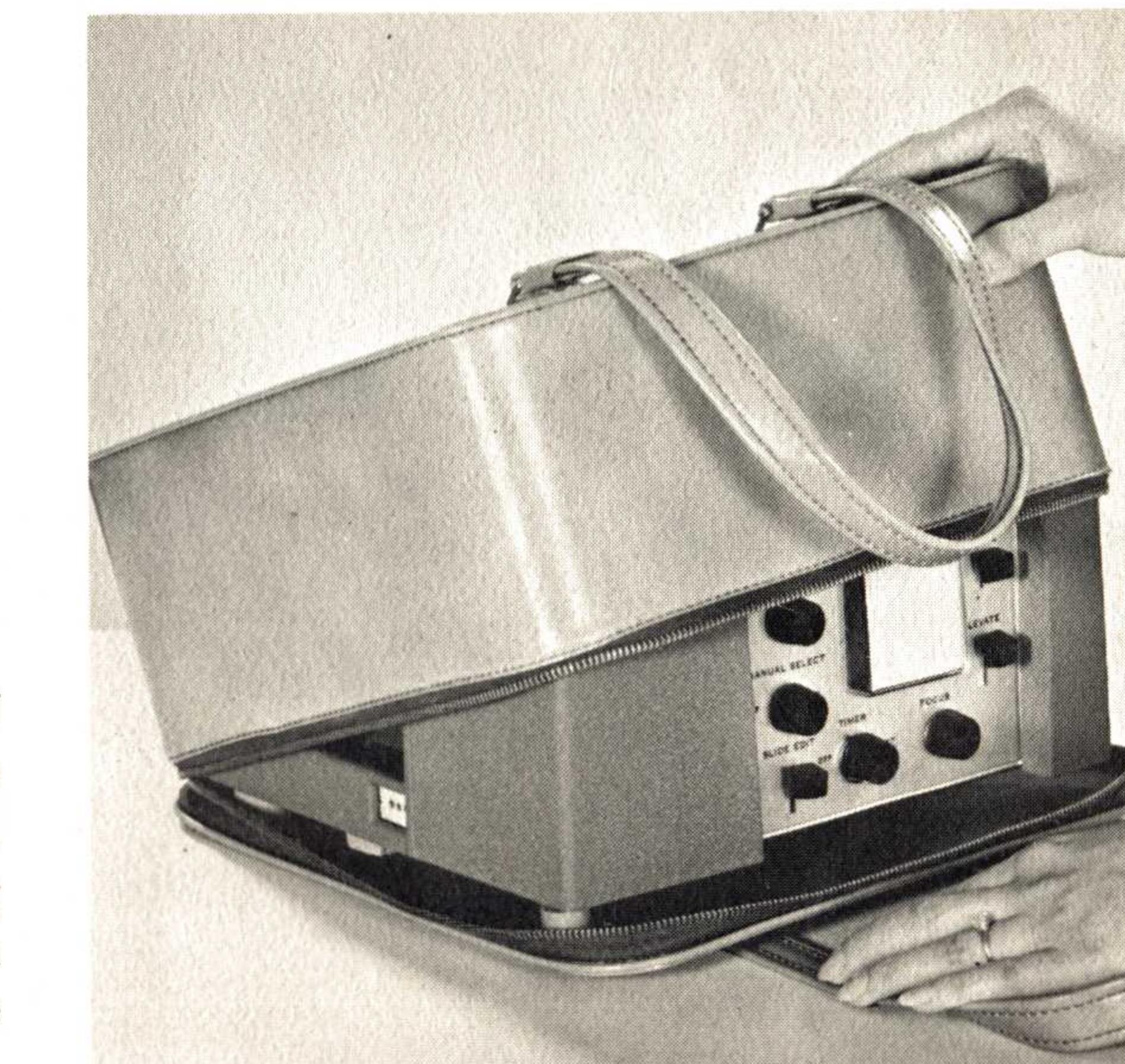
TRAY REMOVAL can be accomplished any time the power cord is plugged in by setting the MASTER CONTROL KNOB at TRAY RELEASE. This releases the tray so that you can either push it out, or move it by means of the MANUAL SELECT KNOB.

If you wish to pack a tray in the machine for carrying, insert it from the front of the projector, after the MASTER CONTROL has been turned to OFF. If there is some resistance to pushing the tray in from the front, do not become concerned, this is the Automatic Positioning Device for No. 1 slide. Merely pull the tray forward about 1 inch and quickly snap the tray back through the tunnel.

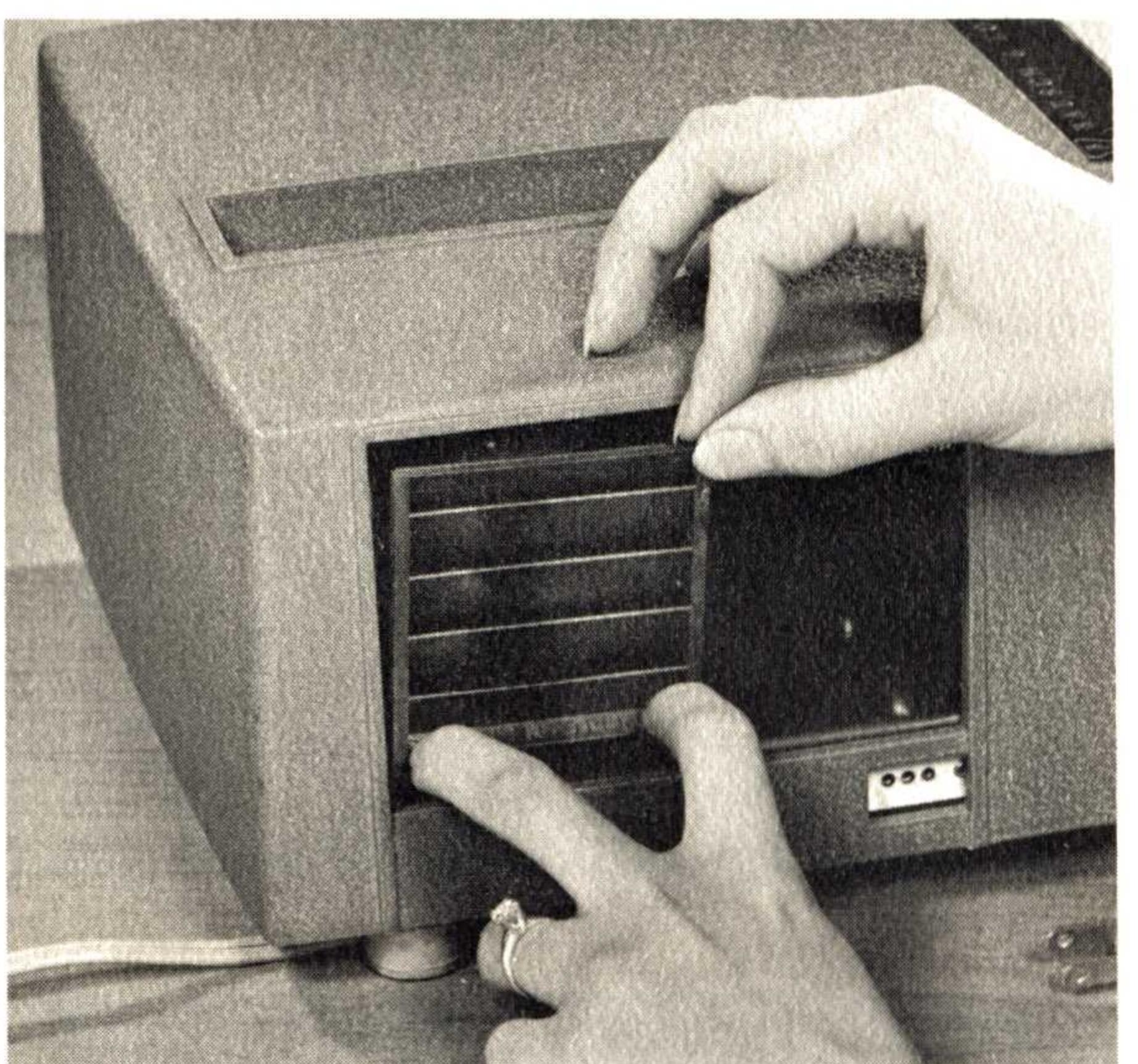


PUTTING THE PROJECTOR BACK IN ITS CASE

Retract the lens to its innermost position. Press the ELEVATION LEVER and lower the projector to a level position. Unplug the power cord and wind it around the storage clips on the bottom. Place the projector on the open flat section of the case, turning the projector 90°, as shown, to allow clearance for the Zoom Lens. Lower the lid over the projector and the case can then be zipped up.

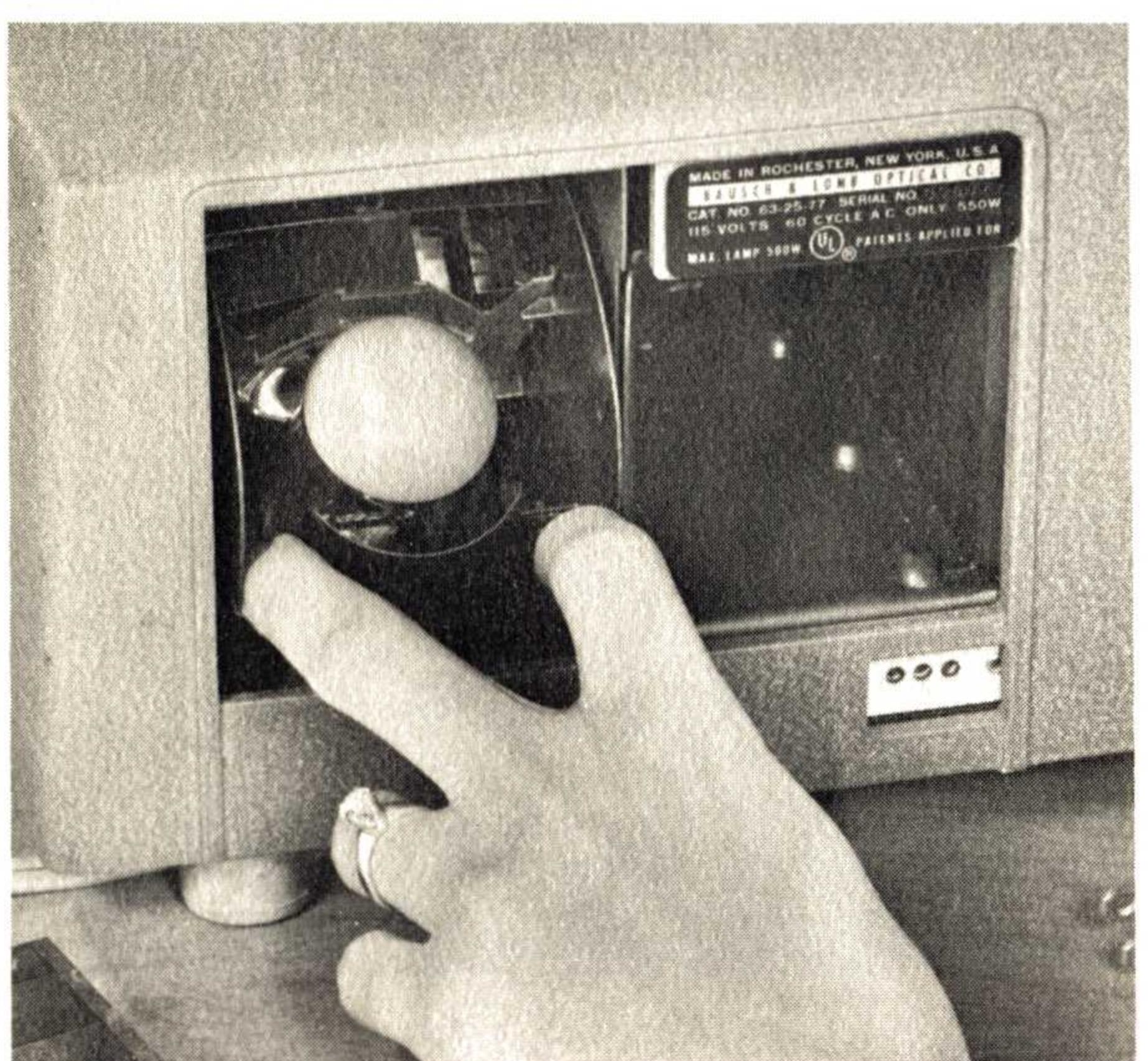


LAMP REPLACEMENT



1

- When a lamp burns out, allow the fan to run a few minutes to cool lamp and louvers. Disconnect the electrical cord and remove the louvers by pushing down at the bottom and pulling out at the top as shown.



2

- ROTATE THE LAMPHOUSE. Pull the entire lamphouse rearward (about $\frac{1}{4}$ inch) as shown and swing downward until you can grasp the lamp. Check to make sure lamp is cool enough to grasp. Wiggle lamp top sideways slightly to loosen socket tension.



3

- REMOVE AND REPLACE THE LAMP. Pull the lamp straight out with one hand while steadyng the housing with the other. When inserting the new lamp, be certain that the key on the lamp base is aligned with the keyway in the socket; then push the lamp into the socket as far as it will go.

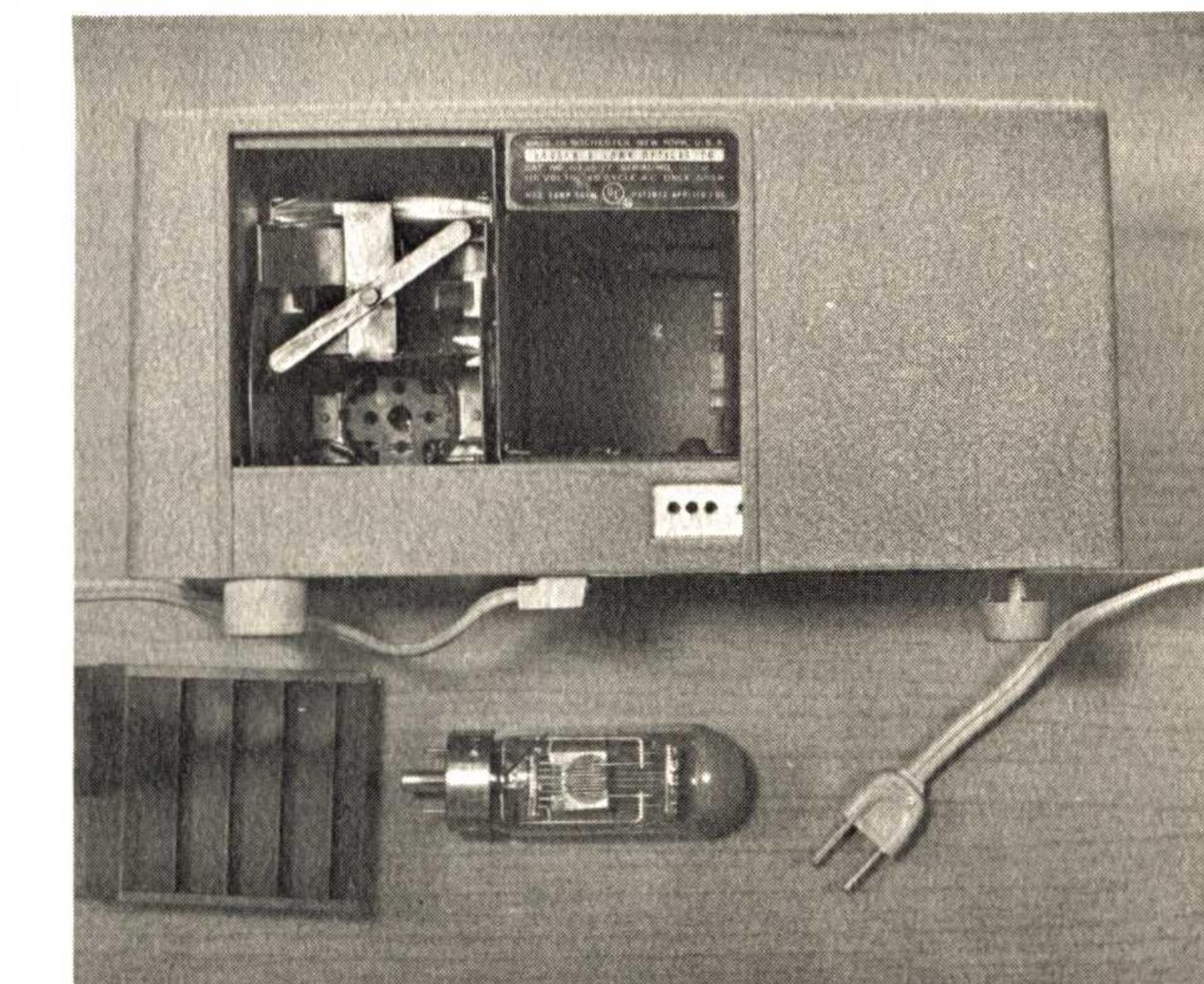
The lamp designation is CZA and is manufactured by Sylvania, Westinghouse and General Electric.

CARE AND CLEANING

CLEANING THE CONDENSING SYSTEM. Occasionally the condenser lenses may need cleaning. Be sure the projector is cool. Stand the projector on its front end after first pushing the projection lens as far as it will go into the projector. Proceed with the removal of the lamp cover and swing the lamphouse out and down as described for lamp replacement. Remove the lamp. Rotate the condenser retainer spring. Lift out the condenser lenses. Dust may be removed with a clean soft cloth. For a more thorough cleaning, use a mild soap and water solution and dry with a clean soft cloth. When replacing, the larger lens and the flat heat filter may be turned in either direction, but the strong convex curve on the small lens must face the heat filter.

CLEANING THE PROJECTION LENS. Remove the projection lens by pulling out and simultaneously pushing down toward the projector base. Do not attempt to disassemble. Blow the dust off the two outside surfaces and then, if needed, wipe with a clean soft cloth. Replace projection lens by pushing straight into the mounting hole.

LUBRICATION. No lubrication of any part will be required during the life of the projector. The motor bearings are made of oil-impregnated metal.



PROJECTION DISTANCES FOR MODEL 655 PROJECTOR

DISTANCE IN FEET FROM FILM PLANE (EDIT SLOT) TO SCREEN

Projection Lens	4 Inch Focal Length			5 Inch Focal Length			7 Inch Focal Length		
	40 in.	50 in.	60 in.	40 in.	50 in.	60 in.	40 in.	50 in.	60 in.
Picture Size (Long Dimension)									
35mm Slide (23.0 x 34.0mm)	10½'	13'	15½'	13½'	16½'	19½'	18½'	23'	27½'
Bantam Slide (26.2 x 38.1mm)	9½'	12'	14'	12'	14½'	17½'	16½'	20½'	24½'
Super Slide (38.1 x 38.1mm)	9½'	12'	14'	12'	14½'	17½'	16½'	20½'	24½'

PROJECTION DISTANCES FOR MODEL 655 ZOOM PROJECTOR

DISTANCE IN FEET FROM FILM PLANE (EDIT SLOT) TO SCREEN

Screen Size	40" x 40"	50" x 50"	60" x 60"
35mm Slide (23.0 x 34.0mm)	10' to 16½'	12½' to 20½'	14½' to 24½'
Bantam Slide (26.2 x 38.1mm)	9' to 15'	11' to 18½'	13' to 22'
Super Slide (38.1 x 38.1mm)	9' to 15'	11' to 18½'	13' to 22'

PLANNED SLIDE SHOWS ARE MORE FUN

By planning ahead and making a few simple prearrangements, both you and your audience will get more enjoyment out of your slide show. The first step—and the most important—is to arrange your slides in proper sequence so that they tell an interesting and orderly story. If you have enough trays for all your slides, this will be a one time only job. Just put the filled trays in the boxes in which they are delivered, noting on the convenient title label the subject or subjects of the slides. Another plus factor in adopting this method is that you completely eliminate the necessity of handling the slides either before or during the showing, thus extending their life span.

The next step is to set up your projector and place screen at proper distance. Then complete your seating arrangements for the audience, taking care to place your own chair at the right side of the projector to be convenient to the control panel.

You are now ready for fun! Just seat your guests, turn on the projector—and away you go!

MAKING BEST USE OF THE SLIDE VIEWING SCREEN

When you set your projector to either TRAY RELEASE or EDIT positions, the slide viewing screen automatically turns on. This can be helpful to you in several ways.

1. If you have notes that you would like to read during the slide show, just turn the MASTER CONTROL KNOB to EDIT and you will have plenty of light without annoying the audience. (With the knob in this position, you can change slides in the usual manner. Only the automatic timer becomes inoperative.)
2. The slide viewing screen becomes an accessory room light when not projecting by setting the master control knob at TRAY RELEASE.
3. The slide viewing screen provides you with a handy method of previewing or correctly orienting your slides right at the projector.

ACCESSORIES:

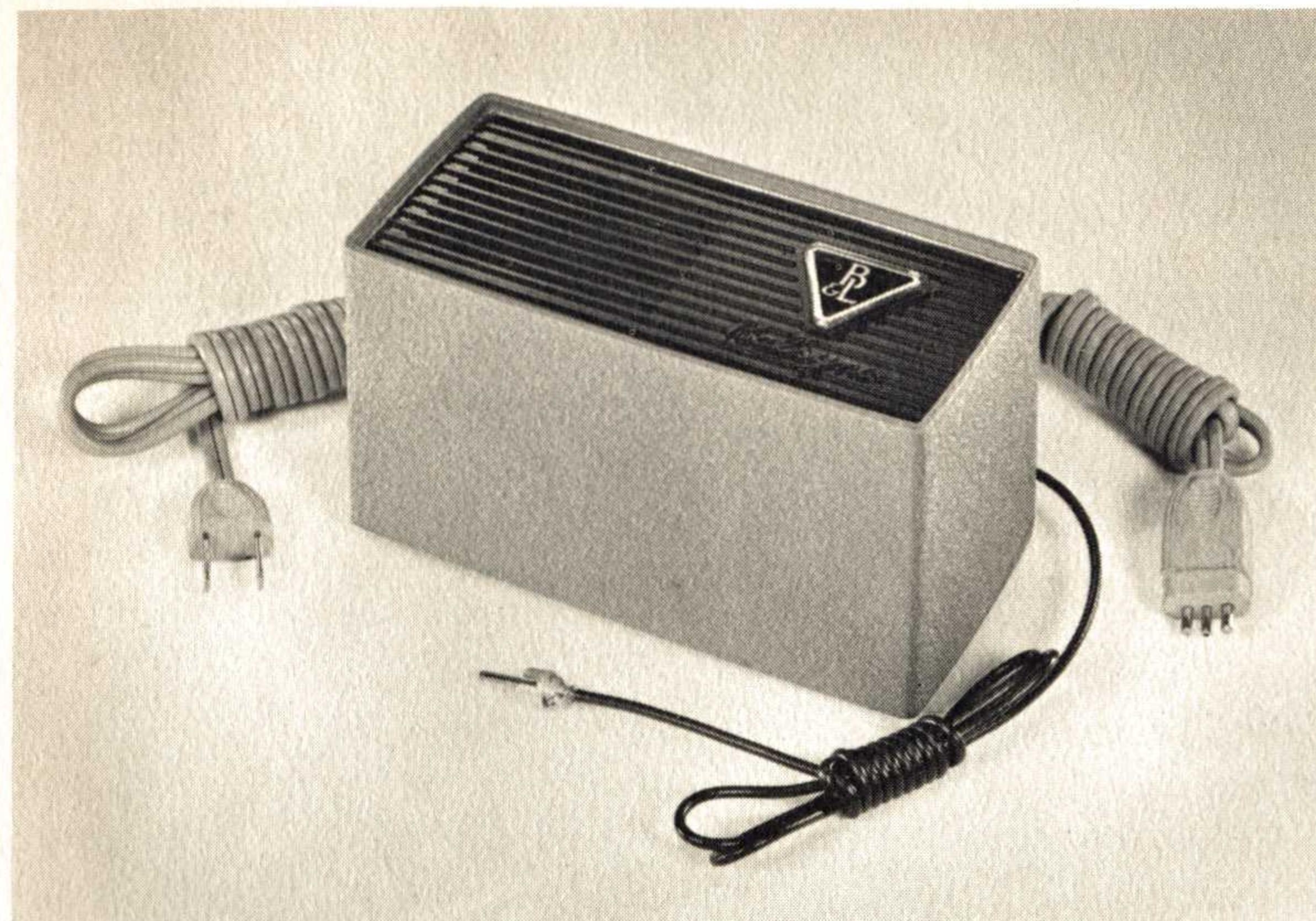
REMOTE CONTROL CORD

15' cord which permits across the room operation.....Cat. No. 63-25-01

PROJECTION LENSES

4" f/3.5 projection lens.....	Cat. No. 63-25-34
5" f/3.5 projection lens (with lens iris).....	Cat. No. 63-25-15
7" f/3.5 projection lens.....	Cat. No. 63-25-17
3.75" to 6.25" f/3.5 Zoom projection lens.....	Cat. No. 63-25-46

SLIDE TRAYS—For convenient storage and elimination of slide handling, obtain additional non-spill slide trays for all your slides.....Cat. No. 63-25-42



NOW...

ADD SOUND TO YOUR SLIDE SHOWS WITH THIS LITTLE BOX

You're back home from vacation, full of wonderful memories. You've got boxes full of slides that keep your trip alive in brilliant color. You've already shown your slides on your projector to your friends while you tell them the whole vacation story. But, as the time goes by, the place and the special memories begin to fade.

This is the moment when a simple little box called BALSYNC takes over!

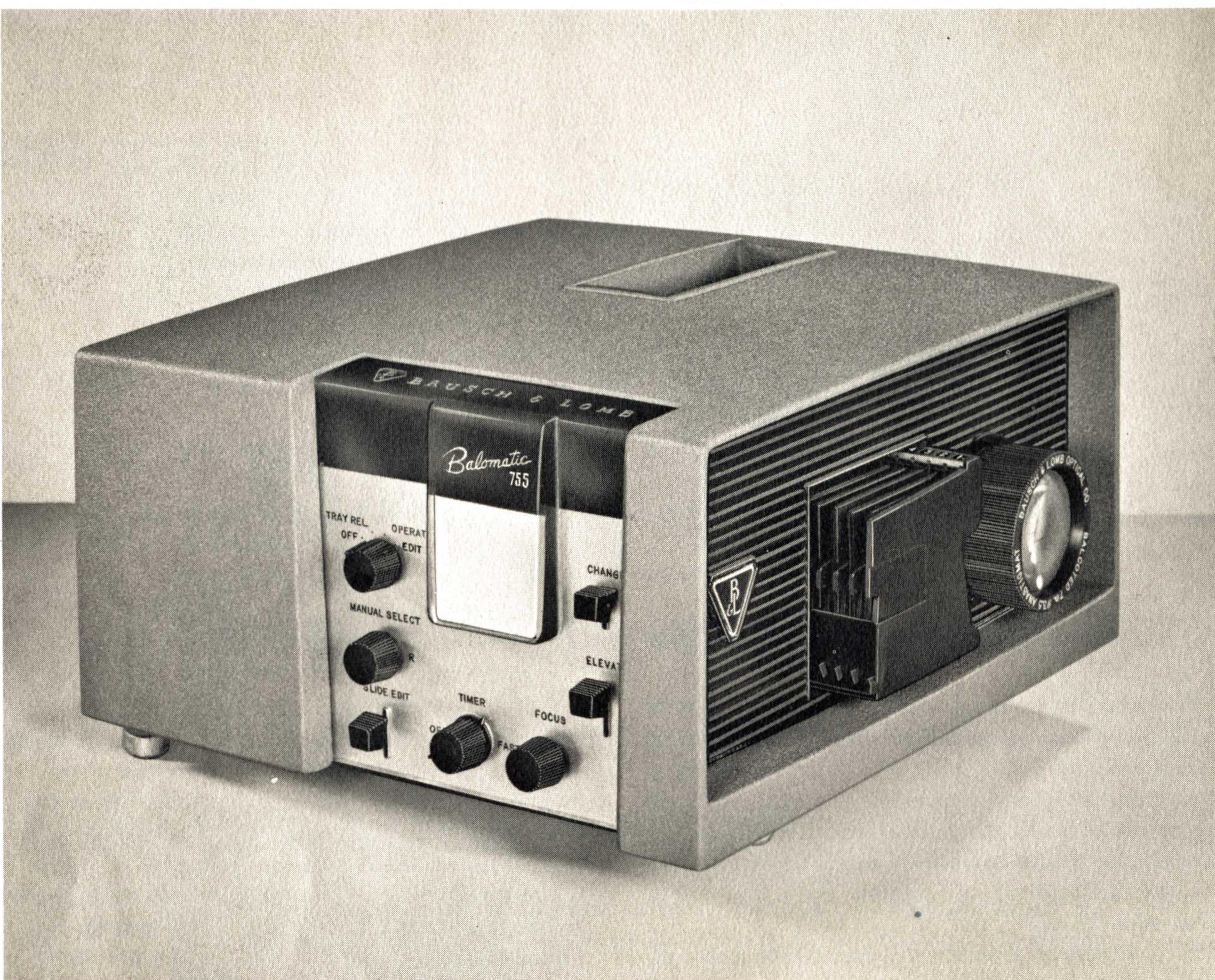
BALSYNC makes it possible for you to put down all your vacation memories on tape while they're still fresh and vivid . . . and synchronized right in with your slide show! The problem of trying to remember the background detail behind each slide is solved with this fine new product from Bausch & Lomb. Sound-slide shows can make all the difference in the world when they're

full of lively commentary, background music and realistic sound effects. And they're easy to do with BALSYNC, Using a monaural-record, stereo-playback tape recorder, run through your entire commentary. When you think a slide change should occur, put a reference mark on the tape (with a small adhesive label or a grease pencil). Then turn tape over, play back and whenever you come to a reference mark, record a signal on the tape (saying "change" will do it) . . . and the show's ready, with no annoying audible "beeps"! BALSYNC will now activate the remote control of your Balomatic projector—automatically causing your slides to change.

BALSYNC does the whole job. Home shows, business presentations, sales training and school work . . . the uses for BALSYNC are limitless.

BAUSCH & LOMB INCORPORATED • ROCHESTER 2, N.Y.

OTHER BAUSCH & LOMB PRODUCTS OF INTEREST TO YOU



BALOMATIC 755

—for your friends who have $2\frac{1}{4} \times 2\frac{1}{4}$ " slides, also projects 2×2 " slides.

Do your double lens reflex friends a favor and tell them that at last there is a fully automatic projector for their $2\frac{1}{4} \times 2\frac{1}{4}$ " slides. You can describe it expertly, too, because the 755 has all the features of your projector and is only a little larger. The non-spill tray, like yours, holds 40 slides in any kind of mount. Furthermore, through the use of inexpensive adapters, it will accept 2×2 " cardboard mounts, intermixed, if desired!

Of course, you will want to add all the features which caused you to select your 655—High Picture Fidelity, ease of operation, forward-reverse, editing, always stays in focus, and all the rest of the good things.

Your photo dealer probably has the Balomatic 755 in stock.

RAY-BANS—the most distinguished name in sun glasses

Your eyes deserve the protection they get only from sun glasses made of genuine optical glass, ground-and-polished-to-curve. In all outdoor activities, and especially when you drive, you will appreciate the way Ray-Ban lenses protect your eyes from dazzling sunlight as no ordinary sun glass can. Ray-Ban Sun Glasses come in more than 70 styles and colors to suit your discriminating taste. Available in prescription, too.



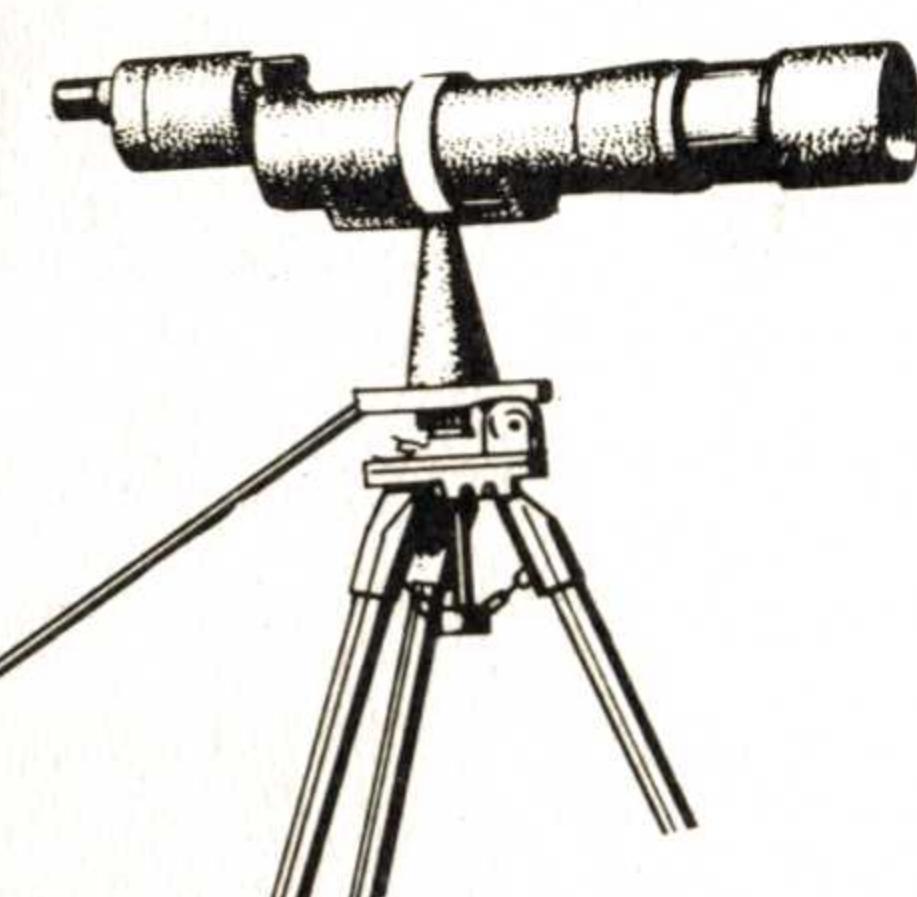
BAUSCH & LOMB BINOCULARS—the world's best—by any test

Nothing may ever contribute so much to your personal pleasure as the use of a truly fine binocular. There are thrills for a lifetime in seeing distant action or objects clearly and in detail as though they were close at hand. The full enjoyment a binocular can give is dependent on its optical excellence and its mechanical ability to maintain that excellence through years of use. In both these characteristics Bausch & Lomb Binoculars excel to the extent that they are the universal standard of binocular quality. Request folder G-298.



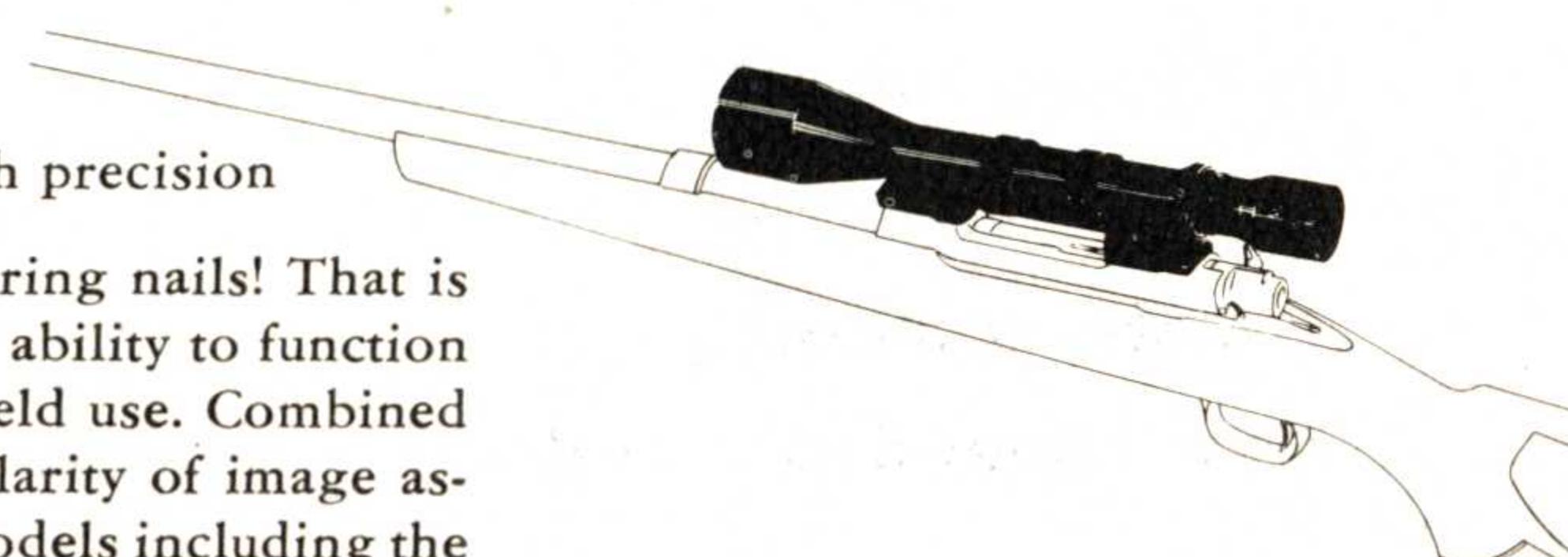
READERS AND MAGNIFIERS—a kind for every purpose

There are two characteristics of magnifiers that most people do not realize. One, magnifiers are tools and, like other tools, come in many forms for different purposes. Among the more than 70 types made by Bausch & Lomb you will find those that meet your own special requirements. Two, there is a vast difference in the quality of magnifiers and readers on the market—a difference that is very evident in the detail which can be seen through them. Here again Bausch & Lomb's standards of optical excellence assure you maximum performance and long service. Request folder I-103.



BALSCOPE TELESCOPE—for photography and general viewing

Here is a fine (but rugged!) prismatic telescope that, with the aid of an adapter, becomes a top quality, 1000mm or more telephoto lens for your single lens reflex camera. Use it for bird study, amateur astronomy, wild life "peeping," any distant action or scene—you will learn why so many say, "Telescopes are fun!" The Balscope has interchangeable eyepieces of $15\times$, $20\times$, $30\times$ and $60\times$ and is available from your photo dealer. Request folder G-112.

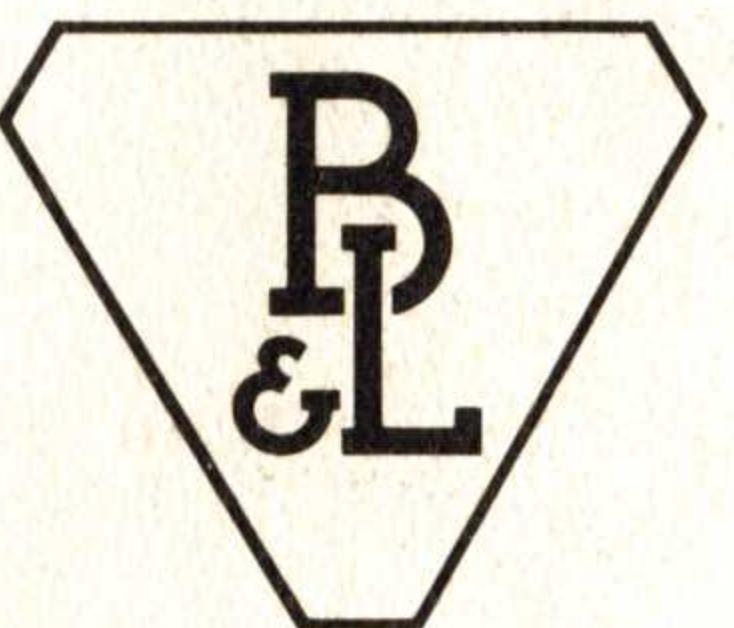


BAUSCH & LOMB RIFLE SIGHTS—combine durability with precision

Imagine a precision optical instrument which is capable of hammering nails! That is just what a Bausch & Lomb rifle sight will withstand in proof of its ability to function perfectly under the normal and accidental abuse it will receive in field use. Combined with this ruggedness is an optical system unrivaled for the crisp clarity of image associated with all Bausch & Lomb products. Fixed and zoom power models including the famous Balvar 8 ($2\frac{1}{2}\times$ to $8\times$)—the World's most wanted scope. All hunting models are guaranteed fog-proof and can be instantly changed from one rifle to another without loss of zero. Request folder G-181.

OPERATING INSTRUCTIONS

Models 655 and 655 Zoom



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